



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,073	10/29/2003	Sashikanth Chandrasekaran	50277-2318	8113

42425 7590 11/27/2007

HICKMAN PALERMO TRUONG & BECKER/ORACLE
2055 GATEWAY PLACE
SUITE 550
SAN JOSE, CA 95110-1089

EXAMINER

NGUYEN, VAN H

ART UNIT	PAPER NUMBER
----------	--------------

2194

MAIL DATE	DELIVERY MODE
-----------	---------------

11/27/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/697,073

Applicant(s)

CHANDRASEKARAN,
SASHIKANTH

Examiner

VAN H. NGUYEN

Art Unit

2194

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-59 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-59 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. This communication is responsive to the amendment filed 09/04/2007.

Claims 1-59 are currently pending in this application.

Claim Objection

2. Claim 3 is objected to because of the following minor informalities:

As to claim 3: "*the subsequent events*" should read "*the one or more subsequent*

Appropriate correction is required.

It is noted that the term "a computer-readable medium" (recited in claims 22, 32-38, 40-42, 45, 46, 58, and 59) should be changed to "a computer-readable storage medium" to make the claim statutory under 35 USC § 101.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-42 and 59 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- As to claim 1, “the receiving node” (line 26) lacks antecedent basis. The term “a receiving node” (line 28) renders the claim indefinite. It is unclear if it is referring to the claimed “the receiving node” (line 26).
- As to claim 3, “the first event” and “the second event” lack antecedent basis.

The dependent claims are rejected for fully incorporating the deficiencies of their base claims.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-11, 14, 19-20, 22-32, 35, 40-41, 43-51, 53-57, and 59 are rejected under 35 U.S.C. 102(e) as being anticipated by **Korall et al.** (US 20040088715 A1).

As to claim 47:

Korall teaches computer implemented method comprising the computer-implemented steps of: receiving, at a database server that is executing on a second node in a distributed system, a message that was transmitted by a first node in the distributed system and subsequently had appended thereon information describing an event; and retrieving the information describing the event from the local node where that said event has occurred (see ¶¶ 0013-0014 and 0028-0048).

As to claim 48:

Korall teaches invoking concurrency control techniques to control concurrent access to a shared-memory event buffer from processes that propagate messages to subscriber nodes and processes that generate events (see ¶¶ 0028-0048).

As to claim 49:

Korall teaches maintaining information that describes a plurality of events, coalescing the information that describes a plurality of events, wherein the information that describes a plurality of events may be coalesced for the same event into a single event notification (see ¶¶ 0028-0048).

As to claim 50:

Korall teaches maintaining the information that describes a plurality of events (see ¶¶ 0028-0048).

As to claim 51:

Korall teaches maintaining the information that describes the plurality of events in a shared-memory event buffer (see ¶¶ 0028-0048).

As to claims 53-57:

Korall teaches the use of a computer-readable medium and one or more processors (see ¶¶ 0038-0048).

As to claim 43:

The rejection of claim 47 above is incorporated herein in full. Additionally, Korall teaches detecting an occurrence of an event at a first node of the system, determining if the information about said event is identical to another previously occurring event, appending onto an existing message a notification that describes a single instance of said event, wherein the message was destined to be propagated to a receiving node that is not

a node sending the message; an propagating the notification to the receiving node (see ¶¶ 0013-0014 and 0028-0048).

As to claim 44:

Korall teaches if there exists a stored indication that an identical event was previously generated and the propagating of the message having the information appended did not yet occur, then an indication is stored that multiple identical events were generated (see ¶¶ 0028-0048).

As to claims 45-46:

Korall teaches the use of a computer-readable medium and one or more processors (see ¶¶ 0038-0048).

As to claim 1:

The rejection of claim 47 above is incorporated herein in full. Additionally, Korall teaches detecting an occurrence of an initial event at a first node of the system; detecting an occurrence of one or more subsequent events at the first node of the system; determining that the information about the initial event is identical to the information about said one or more subsequent events; in response to determining that the information about the initial event is identical to the information about said one or more subsequent events, appending, onto an existing message, a notification that includes

information that describes a single instance of an event selected from a set of events that consists of describing (a) said initial event; and (b) said one or more subsequent events; propagating the notification to the receiving node, wherein the message is destined to be propagated to a receiving node that is not a node sending the message (see ¶¶0013-0014 and 0028-0048).

As to claim 2:

Korall teaches the message was generated for purposes other than sending information appended (see ¶¶0013-0014 and 0028-0048).

As to claim 3:

Korall teaches comparing information that describes the first event with information that describes the second event to determine whether the initial event and the subsequent events are identical; and the method further comprising if the two events are identical, then indicating that the information that describes the subsequent events no longer needs to be retained (see ¶¶0013-0014 and 0028-0048).

As to claim 4:

Korall teaches setting an identifier indicating that the information describing the identical event is to be appended onto a message and propagated to a particular node (see ¶¶ 0028-0048).

As to claim 5:

Korall teaches said clustered computing system comprises a database management system) (see ¶¶ 0028-0048).

As to claim 6:

Korall teaches said clustered computing system comprises a shared-disk database system (see ¶¶ 0028-0048).

As to claim 7:

Korall teaches said clustered computing system comprises a shared-cache parallel database management system (see ¶¶ 0028-0048).

As to claim 8:

Korall teaches said clustered computing system comprises a shared-nothing database management system (see ¶¶ 0028-0048).

As to claim 9:

Korall teaches said clustered computing system comprises a distributed database management system (see ¶¶ 0028-0048).

As to claim 10:

Korall teaches searching a shared-memory event buffer having a size that is fixed (see ¶¶ 0028-0048).

As to claim 11:

Korall teaches the message has a fixed size, and the method further comprises:
appending additional information that describes additional events onto existing message
traffic until free space in the fixed-size message is filled (see ¶¶ 0028-0048).

As to claim 14:

Korall teaches an in-memory hash index is used to determine if an event exists in a
shared-memory event buffer (see ¶¶ 0028-0048).

As to claim 19:

Korall teaches maintaining the information that describes a plurality of events (see ¶¶ 0028-0048).

As to claim 20:

Korall teaches maintaining the information that describes the plurality of events in a
shared-memory event buffer (see ¶¶ 0028-0048).

As to claims 22-32, 35, 40-41, and 59:

Korall teaches use of a computer-readable medium and one or more processors (see ¶¶ 0038-0048).

Claim Rejections - 35 U.S.C. § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12-13, 15-18, 21, 33-34, 36-39, 42, 52, and 58 are rejected under 35 U.S.C. § 103(a) as being unpatentable over **Korall** in view of **Koning et al** (US 6,988,226).

As to claims 12 and 13:

Korall does not specifically teach the use of a queue as claimed.

Koning teaches the use of a queue [*event queue; see the discussion beginning at col.14, line 65*].

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Korall with Koning because Koning's teaching would have provided the capability for effectively managing upgrades of distributed data processing systems.

As to claim 15:

Korall teaches generating an event buffer entry of the shared memory event buffer; placing an event identifier into the event buffer entry; and inserting the information describing the identical event into the event buffer entry *[see the discussion beginning at col.13, line 48]*.

Korall does not specifically teach the claimed partitioning.

Koning teaches partitioning *[partition; see the Abstract and the discussion beginning at col.14, line 65]*.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Korall with Koning because Koning's teaching would have provided the capability for effectively managing upgrades of distributed data processing systems.

As to claim 16:

Korall teaches if between a fastest head pointer and a tail pointer there does not exist a buffer entry in the shared memory event buffer for the identical event, generating a new event buffer entry, and the inserting further comprises inserting the information describing the identical event into the new event buffer entry *[see the discussion beginning at col.13, line 24]*.

As to claim 17:

Korall teaches if between a fastest head pointer and a tail pointer there exists a buffer entry in the shared memory event buffer for the identical event, updating the buffer entry so that the buffer entry represents the second occurrence *[see the discussion beginning at col.13, line 24]*.

As to claim 18:

Korall teaches using the shared memory event buffer to determine to which existing message to append the information describing the identical event *[see the discussion beginning at col.13, line 24]*.

Korall does not specifically teach the use of a round robin method as claimed.

Koning teaches the use of a round robin method [*round-robin scheduling; see the discussion beginning at col.12, line 40*].

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Korall with Koning because Koning's teaching would have provided the capability for effectively managing upgrades of distributed data processing systems.

As to claim 21:

Korall does not specifically teach the use of a circular buffer.

Koning teaches the use of a circular buffer [*a circular buffer; see the discussion beginning at col.15, line 53*].

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Korall with Koning because Koning's teaching would have provided the capability for effectively managing upgrades of distributed data processing systems.

As to claims 33-34, 36-38, and 42:

Korall teaches use of a computer-readable medium and one or more processors (see ¶¶ 0038-0048).

As to claim 52:

Refer to claim 21 above for rejection.

As to claim 58:

Korall teaches use of a computer-readable medium and one or more processors (see ¶¶ 0038-0048).

Response to Arguments

7. Applicant's arguments with respect to claims 1-59 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. The prior art made of record, listed on PTO 892 provided to Applicant is considered to have relevancy to the claimed invention. Applicant should review each identified reference carefully before responding to this office action to properly advance the case in light of the prior art.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Contact Information

9. Any inquiry or a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: (571) 272-2100.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VAN H. NGUYEN whose telephone number is (571) 272-3765. The examiner can normally be reached on Monday-Thursday from 8:30AM 6:00PM. The examiner can also be reached on alternative Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, WILLIAM THOMSON can be reached at (571) 272-3718.

Application/Control Number:
10/697,073
Art Unit: 2194

Page 16

The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



VAN H. NGUYEN
PRIMARY EXAMINER